

IN THE CLAIMS:

This Listing of Claims replaces all prior Listings and versions of claims in the above-identified application.

Listing of Claims

1. (Original) A method to reduce airway hyperresponsiveness in a mammal, comprising increasing  $\gamma\delta$  T cell action in a mammal that has, or is at risk of developing, a respiratory condition associated with airway hyperresponsiveness.
2. (Original) The method of Claim 1, wherein said step of increasing  $\gamma\delta$  T cell action comprises increasing the number of  $\gamma\delta$  T cells in the lung tissue of said mammal.
3. (Original) The method of Claim 2, wherein said step of increasing comprises removing  $\gamma\delta$  T cells from said mammal, inducing said  $\gamma\delta$  T cells to proliferate *ex vivo* to increase the number of said  $\gamma\delta$  T cells, and returning said  $\gamma\delta$  T cells to the lung tissue of said mammal.
4. (Original) The method of Claim 1, wherein said step of increasing  $\gamma\delta$  T cell action comprises activating  $\gamma\delta$  T cells in said mammal.
5. (Original) The method of Claim 4, wherein said step of activating  $\gamma\delta$  T cells is performed *ex vivo*.
6. (Original) The method of Claim 1, wherein said step of increasing  $\gamma\delta$  T cell action comprises administering an agent to said mammal that activates  $\gamma\delta$  T cells in said mammal.
- 7-16. (Cancelled)
17. (Original) The method of Claim 6, wherein said agent is targeted to  $\gamma\delta$  T cells in said mammal.
18. (Original) The method of Claim 17, wherein said agent is targeted to  $\gamma\delta$  T cells in the lung tissue of said mammal.
19. (Original) The method of Claim 17, wherein said agent is targeted to  $\gamma\delta$  T cells having a T cell receptor (TCR) selected from the group consisting of a murine TCR comprising V $\gamma$ 4 and a human TCR comprising V $\gamma$ 1.
- 20-21.

22. (Original) The method of Claim 6, wherein said agent is administered to the lung tissue of said mammal.

23. (Original) The method of Claim 22, wherein said agent is administered by a route selected from the group consisting of inhaled, intratracheal and nasal routes.

24. (Original) The method of Claim 6, wherein said agent is administered to said animal in an amount effective to reduce airway hyperresponsiveness in said animal as compared to prior to administration of said agent.

25. (Original) The method of Claim 6, wherein said agent is administered with a pharmaceutically acceptable excipient.

26. (Original) The method of Claim 1, wherein said  $\gamma\delta$  T cell action is increased within between about 1 hour and 6 days of an initial diagnosis of airway hyperresponsiveness in said mammal.

27. (Original) The method of Claim 1, wherein said  $\gamma\delta$  T cell action is increased within less than about 72 hours of an initial diagnosis of airway hyperresponsiveness in said mammal.

28. (Original) The method of Claim 1, wherein said  $\gamma\delta$  T cell action is increased prior to development of airway hyperresponsiveness in said mammal.

29. (Original) The method of Claim 1, wherein said step of increasing  $\gamma\delta$  T cell action decreases airway methacholine responsiveness in said mammal.

30-32. (Cancelled)

33. (Original) The method of Claim 1, wherein said airway hyperresponsiveness is associated with a disease selected from the group consisting of chronic obstructive disease of the airways and asthma.

34. (Original) A method to identify a compound that reduces or prevents airway hyperresponsiveness associated with inflammation, comprising:

- a) contacting a putative regulatory compound with a  $\gamma\delta$  T cell;
- b) detecting whether said putative regulatory compound increases the action of said  $\gamma\delta$  T cell;
- c) administering said putative regulatory compound to a non-human animal in which airway hyperresponsiveness can be induced, and identifying animals

in which airway hyperresponsiveness is reduced or prevented as compared to in the absence of said putative regulatory compound;

10        wherein a putative regulatory compound that increases  $\gamma\delta$  T cell action and that reduces or prevents airway hyperresponsiveness in said non-human animal is indicated to be a compound for reducing or preventing hyperresponsiveness.

35.     (Original) The method of Claim 34, wherein said step (b) of detecting is selected from the group consisting of measurement proliferation of said  $\gamma\delta$  T cell, measurement of cytokine production by said  $\gamma\delta$  T cell, measurement of calcium mobilization in said  $\gamma\delta$  T cell, measurement of cytokine receptor expression by said  $\gamma\delta$  T cell,  
5        measurement of CD69 upregulation by said  $\gamma\delta$  T cell, measurement of upregulation of CD44 by said  $\gamma\delta$  T cell, and measurement of cytoskeletal reorganization by said  $\gamma\delta$  T cell.